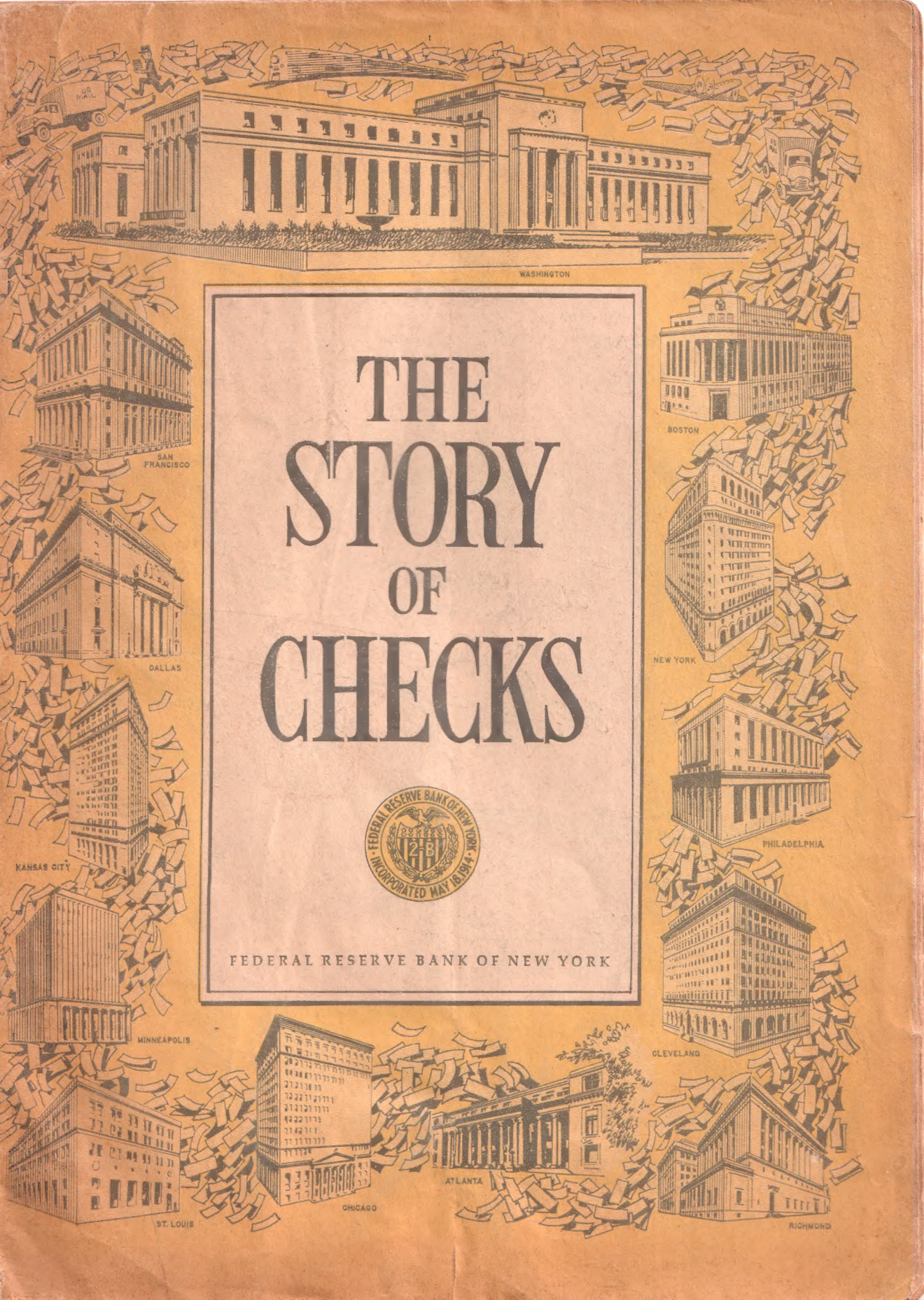
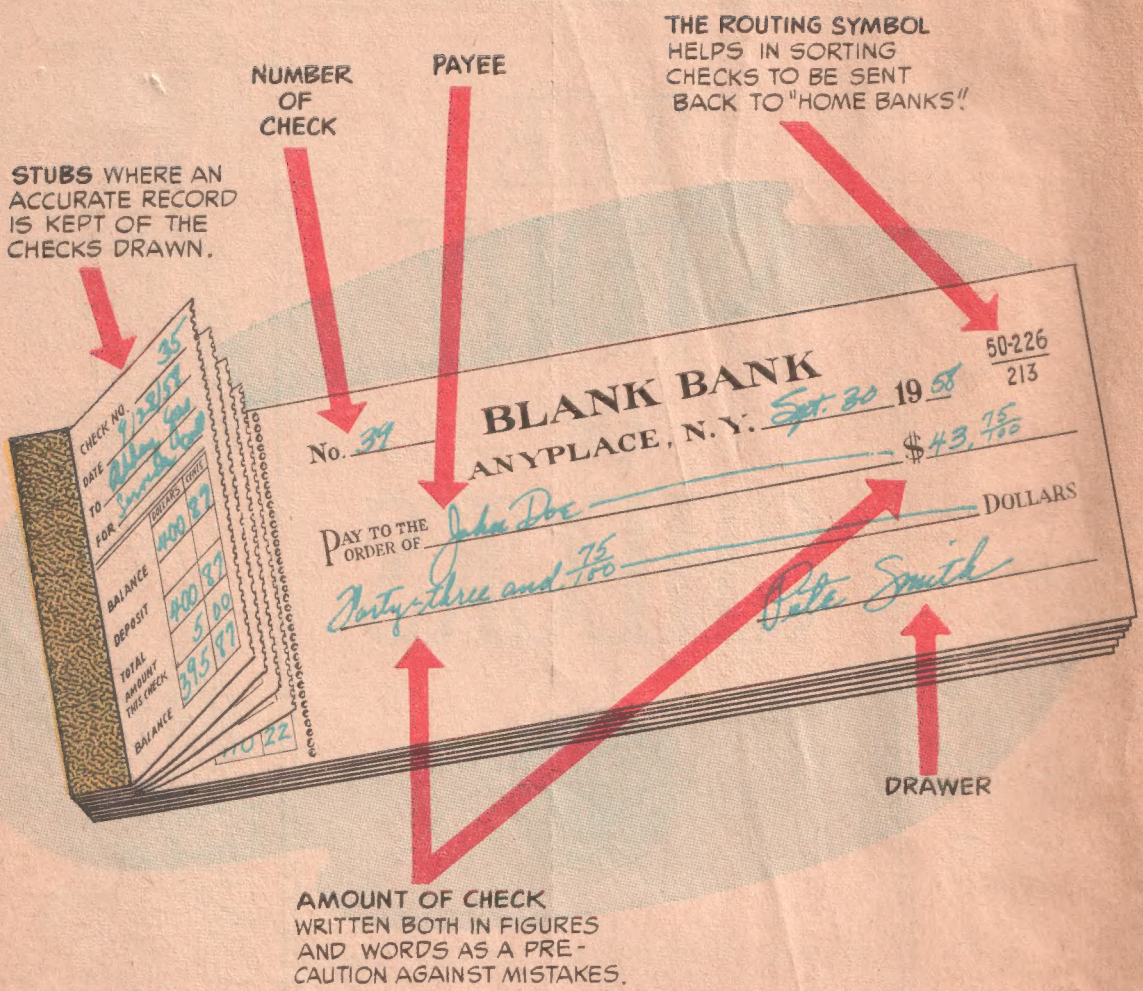
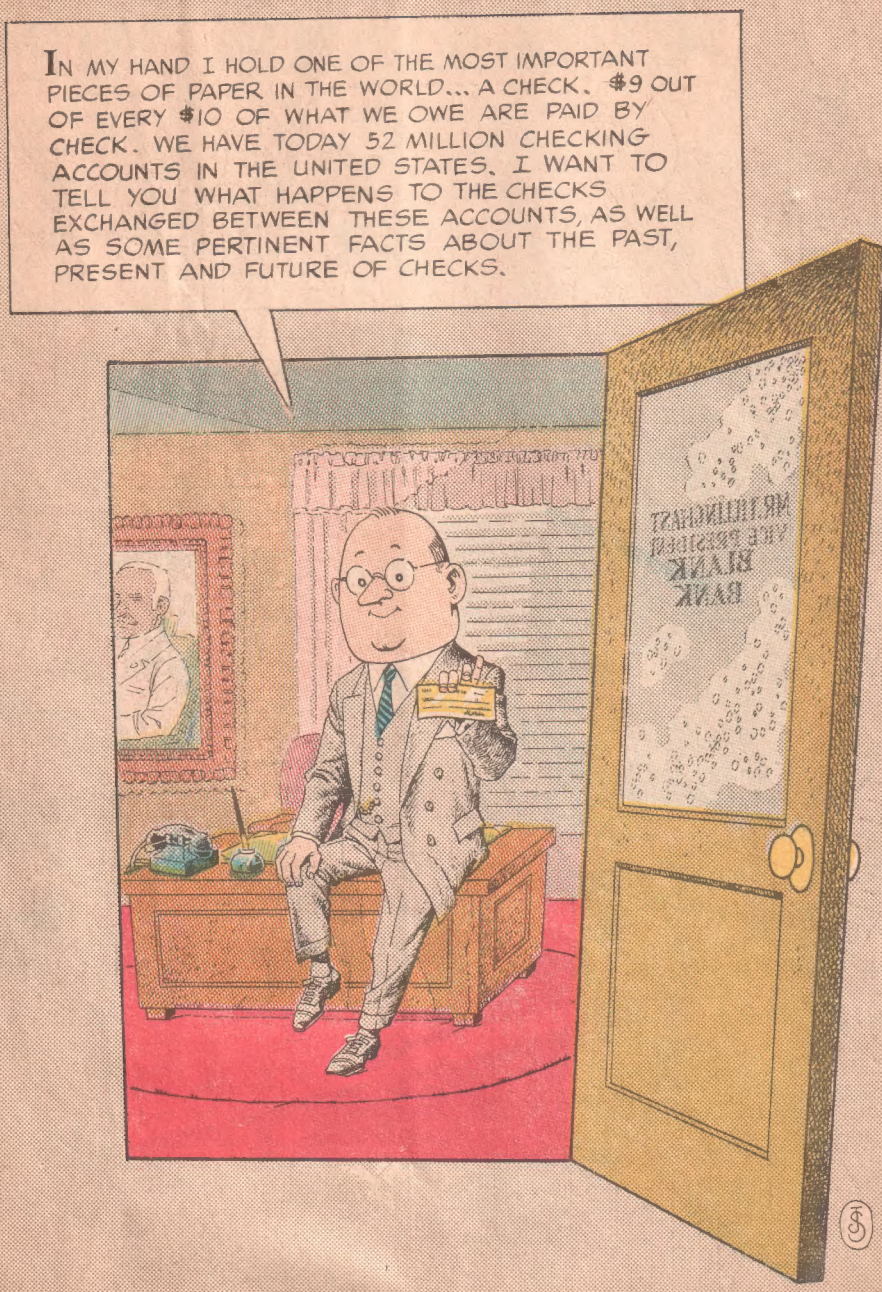



# THE STORY OF CHECKS

FEDERAL RESERVE BANK OF NEW YORK

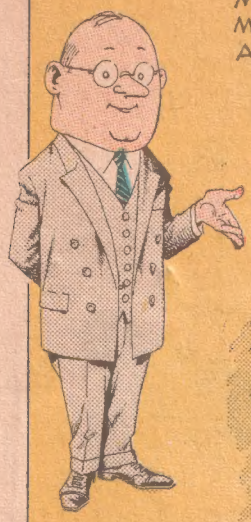



PUBLISHED BY THE PUBLIC INFORMATION DEPARTMENT, FEDERAL RESERVE BANK OF NEW YORK, N.Y. 45
IN RESPONSE TO REQUESTS BY SECONDARY SCHOOLS FOR INFORMATION ON CHECK COLLECTION IN THE UNITED STATES


IN MY HAND I HOLD ONE OF THE MOST IMPORTANT PIECES OF PAPER IN THE WORLD... A CHECK. #9 OUT OF EVERY $10 OF WHAT WE OWE ARE PAID BY CHECK. WE HAVE TODAY 52 MILLION CHECKING ACCOUNTS IN THE UNITED STATES. I WANT TO TELL YOU WHAT HAPPENS TO THE CHECKS EXCHANGED BETWEEN THESE ACCOUNTS, AS WELL AS SOME PERTINENT FACTS ABOUT THE PAST, PRESENT AND FUTURE OF CHECKS.

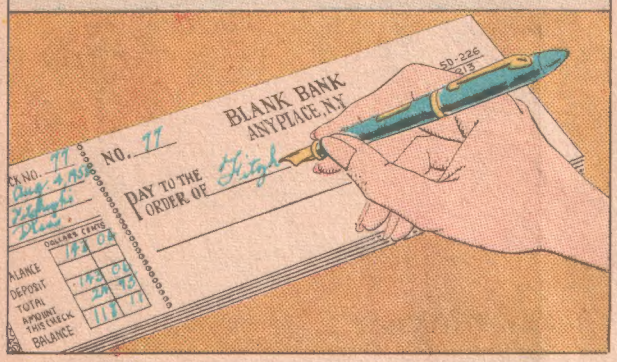
A TYPICAL AMERICAN FAMILY, THE HENDERSONS, HAVE ONE OF THE 52 MILLION CHECKING ACCOUNTS IN THE UNITED STATES. AT THE MOMENT, MRS. HENDERSON IS FACED WITH A SITUATION WHICH WE CAN ALL FULLY APPRECIATE...

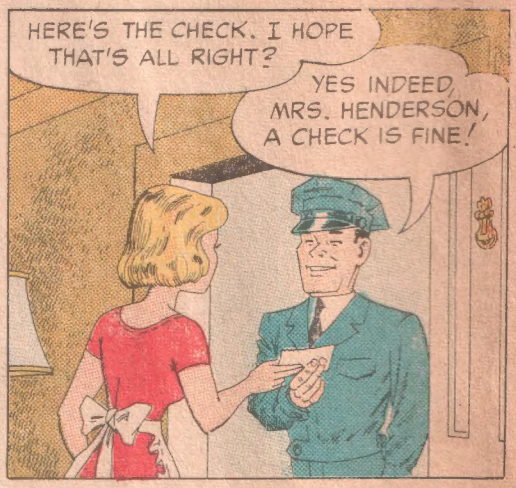
# CHECKBOOK MONEY



MRS. HENDERSON? I HAVE A C.O.D. PACKAGE FROM FITZHUGH'S DEPT. STORE. THE AMOUNT DUE IS $24.95.
OH, MY GOODNESS! I DON'T HAVE THE CASH... WAIT A MINUTE, I'LL WRITE A CHECK!

BY FILLING IN THE BLANKS OF A CHECK FORM... MRS. HENDERSON SPENDS $24.95, AS EASILY AS IF IT WERE OFFICIAL UNITED STATES CURRENCY AND COIN.



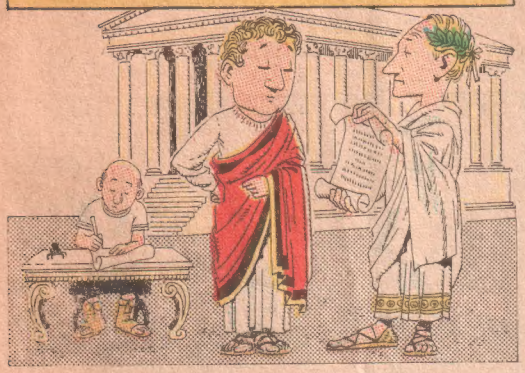



THANK GOODNESS WE HAVE A CHECKING ACCOUNT! I FORGOT I'D HAVE TO PAY FOR THIS TODAY. I DON'T SEE HOW PEOPLE EVER DID WITHOUT CHECKS!

MOST OF US, LIKE MRS. HENDERSON, AGREE THAT CHECKS ARE CONVENIENT; BUT LIKE HER WE THINK VERY LITTLE, IF AT ALL, ABOUT HOW CHECKS DO THEIR JOB. A LOT OF MONEY MOVES AROUND THE UNITED STATES BY CHECK. IN FACT SUMS ADDING UP TO BILLIONS OF DOLLARS EACH DAY CRISS-CROSS AMONG OUR CITIES AND TOWNS IN A COMPLEX PATTERN TO SETTLE MILLIONS OF PAYMENTS LIKE MRS. HENDERSON'S THAT MAKE UP THE ORDINARY BUSINESS OF OUR LIVES. CHECKS ALSO SETTLE BILLIONS OF DOLLARS OF GOVERNMENT AND BUSINESS PAYMENTS.

# HOW IT ALL BEGAN...

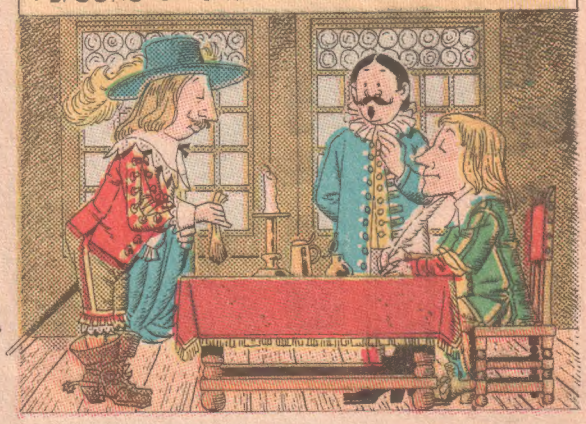
EXPERTS AREN'T SURE... SOME SAY THE ROMANS INVENTED THE CHECK ABOUT 352 B.C.



OTHERS GIVE CREDIT TO HOLLAND IN THE 16TH CENTURY. IN AMSTERDAM, ABOUT 1500 A.D., PEOPLE LEARNED TO DEPOSIT THEIR CASH WITH "CASHIERS" FOR A FEE, RATHER THAN RISK STORING IT AT HOME.

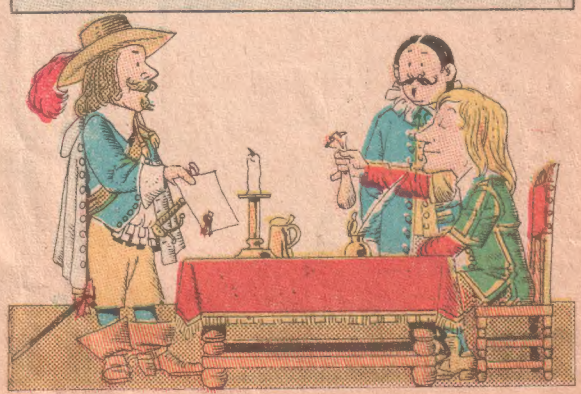
THE CASHIERS AGREED TO COLLECT AND CANCEL DEBTS BY WAY OF THEIR DEPOSITORS' WRITTEN ORDERS... IN OTHER WORDS, CHECKS.

IN ENGLAND, IN THE LATTER PART OF THE 17TH CENTURY, PEOPLE BEGAN TO MAKE DEPOSITS OF CASH WITH GOLDSMITHS...



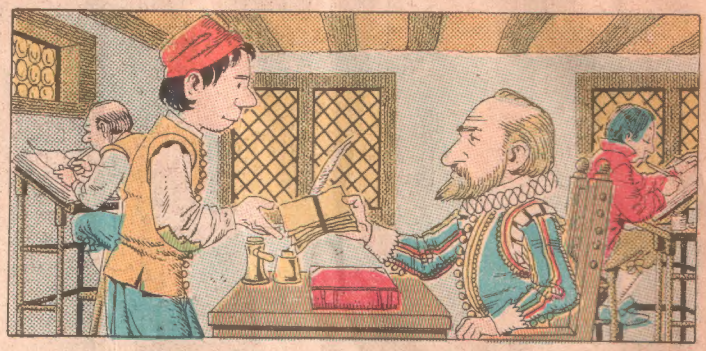
THE GOLDSMITH GAVE HIS CUSTOMER "GOLDSMITH NOTES" (THE FORERUNNERS OF BANK-ISSUED CURRENCY). THESE SIMPLE PEN AND INK "GOLDSMITH NOTES" WERE WRITTEN PROMISES TO PAY THE CUSTOMER, OR TO HIS ORDER.

THE CUSTOMER MIGHT ALSO DROP A LINE TO THE GOLDSMITH DIRECTING HIM TO PAY TO A CERTAIN PERSON OR TO THAT PERSON'S ORDER OR TO THE BEARER OF THE NOTE. THE ORDERS TO PAY DIFFERED FROM MODERN CHECKS ONLY IN BEING LESS UNIFORM.

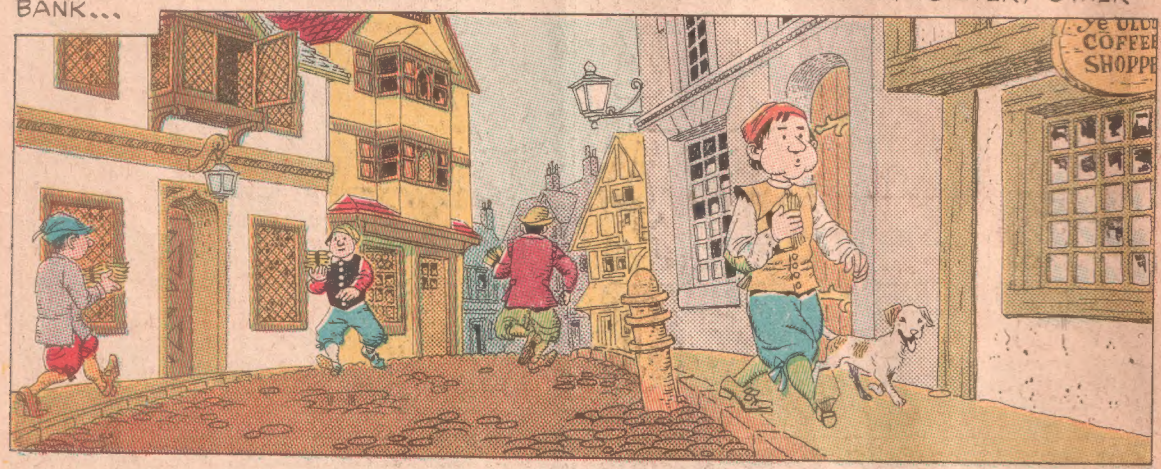


THE EARLIEST PRINTED CHECKS, BELIEVED TO DATE FROM 1762, WERE MADE BY LAWRENCE CHILDS IN ENGLAND. HE WAS THE FIRST BANKER IN THE MODERN SENSE.

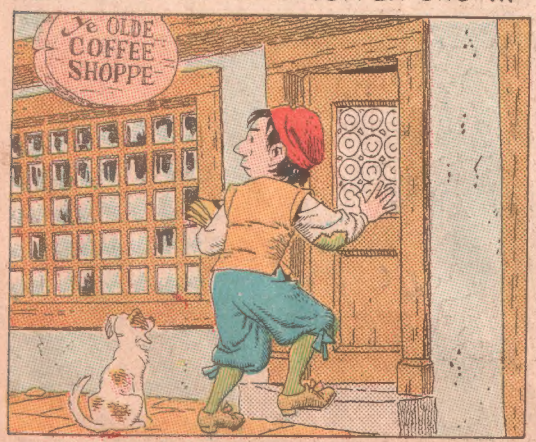
BUT, BEFORE THAT, IN ENGLAND, THE USE OF CHECKS HAD BEGUN TO SPREAD... SOMEONE RECEIVING CHECKS FROM DIFFERENT PEOPLE DRAWN ON DIFFERENT BANKS FOUND IT INCONVENIENT TO GO TO THE VARIOUS BANKS TO GET PAYMENT. HE DEPOSITED THE CHECKS IN HIS OWN BANK WHICH DID THE COLLECTING. PRESENTING CHECKS TO OTHER BANKS WAS ACCOMPLISHED BY USE OF MESSENGERS.



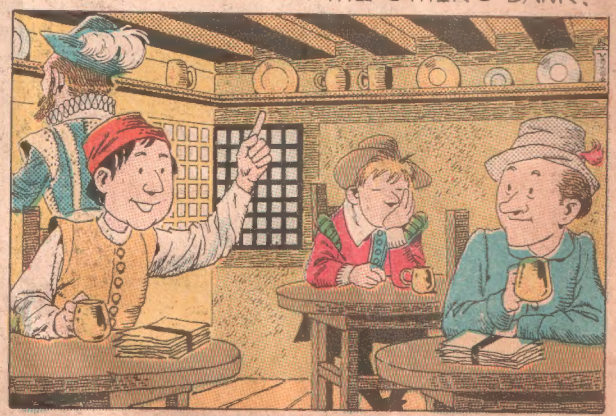
THIS MEANT THAT EACH BANK'S MESSENGER MADE MANY TRIPS EVERY DAY TO EVERY OTHER BANK...



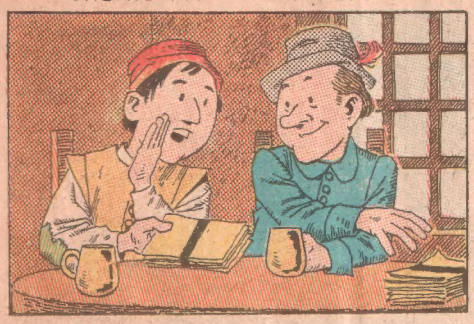

THE STORY GOES... THAT ONE DAY A WEARY MESSENGER STOPPED OFF ON THE WAY AT A LOCAL COFFEE SHOP...



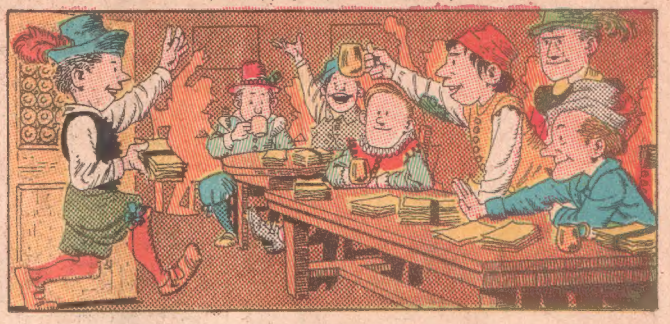

AS HE SETTLED DOWN TO HAVE HIS COFFEE, HE NOTICED ANOTHER BANK MESSENGER... AND AS IT TURNED OUT, EACH CARRIED A BUNDLE OF CHECKS DRAWN ON THE OTHER'S BANK.



IN THE COURSE OF CONVERSATION THEY DECIDED TO EXCHANGE THEIR BUNDLES OF CHECKS. THEY WOULD RETURN TO THEIR OWN BANKS, THUS SHORTENING THEIR TRIP.

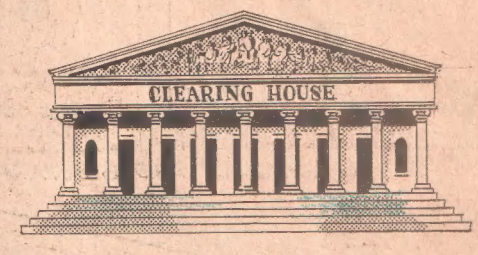


SOON OTHER MESSENGERS, HEARING OF THIS SIMPLE METHOD, STARTED TO MEET AT THE COFFEE HOUSE... THEY ALL WOULD EXCHANGE CHECKS AND RETURN TO THEIR RESPECTIVE BANKS, SAVING MANY EXTRA TRIPS.



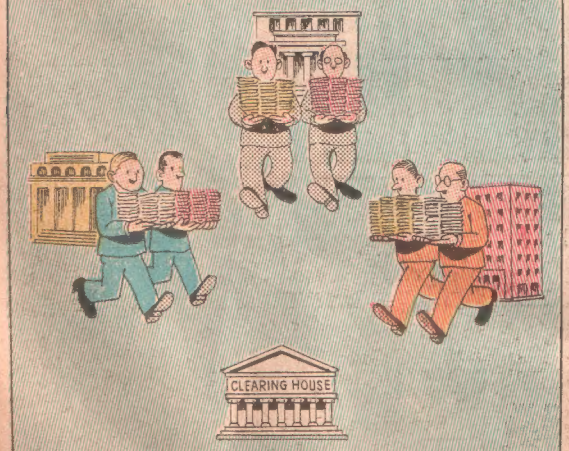
WHEN THE BANKERS FOUND OUT ABOUT THIS, MANY OBJECTED...

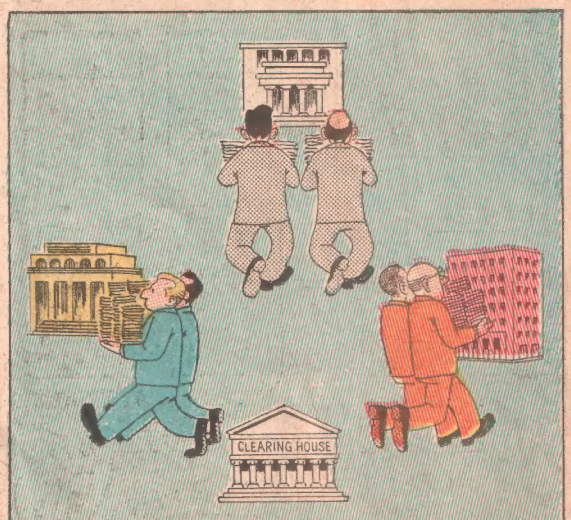
BUT AS TIME WENT ON, THEY REALIZED THE VALUE OF THIS SYSTEM AND IT HAS PROVED ITSELF OVER THE YEARS... TODAY THE LOCAL "CLEARING HOUSE" IS AN INTEGRAL PART OF THE CHECK COLLECTION OPERATION.




THE CLEARING HOUSE OPERATES ALMOST THE SAME AS THE ORIGINAL COFFEE HOUSE GATHERINGS...

BANKS SEND A ***DELIVERY CLERK*** AND A ***SETTLING CLERK*** TO THE CLEARING HOUSE. THEY BRING BUNDLES OF CHECKS, ONE BUNDLE FOR EACH OF THE OTHER BANKS, AND A ***LIST*** OF THE ***AMOUNTS DUE*** THEIR BANKS FROM EACH OTHER BANK.

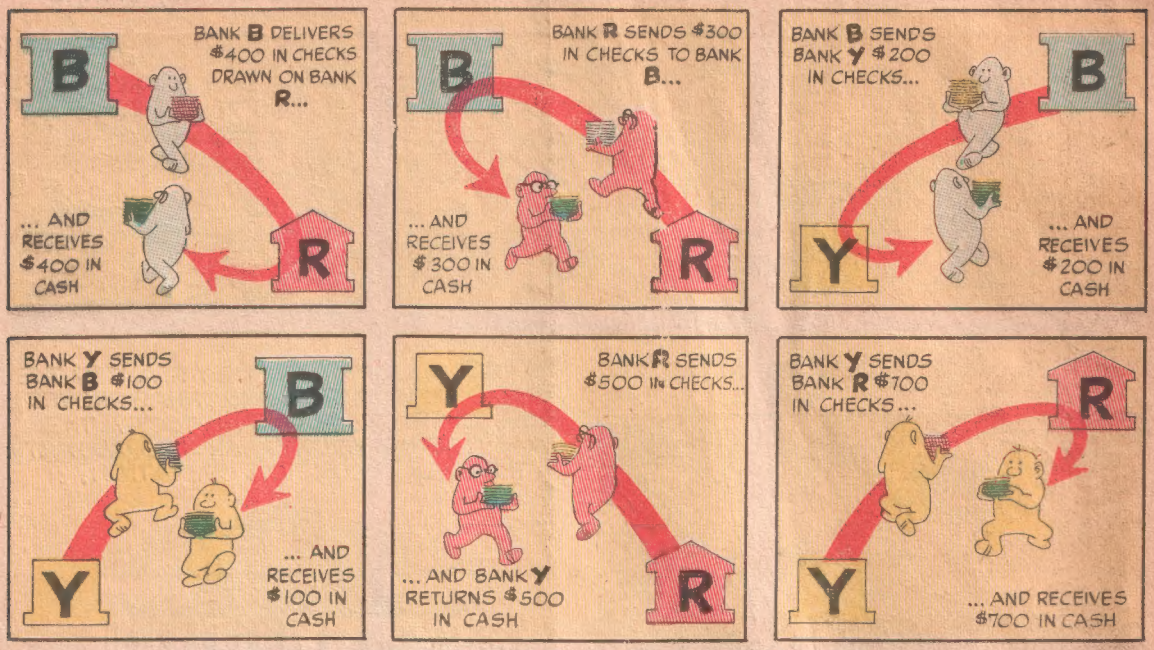



AND THERE THEY HAND OVER THE CHECKS DRAWN ON THE OTHER BANKS, RECEIVE THE CHECKS DRAWN ON THEIR BANK, AND SETTLE NET BALANCES AMONG THEMSELVES.

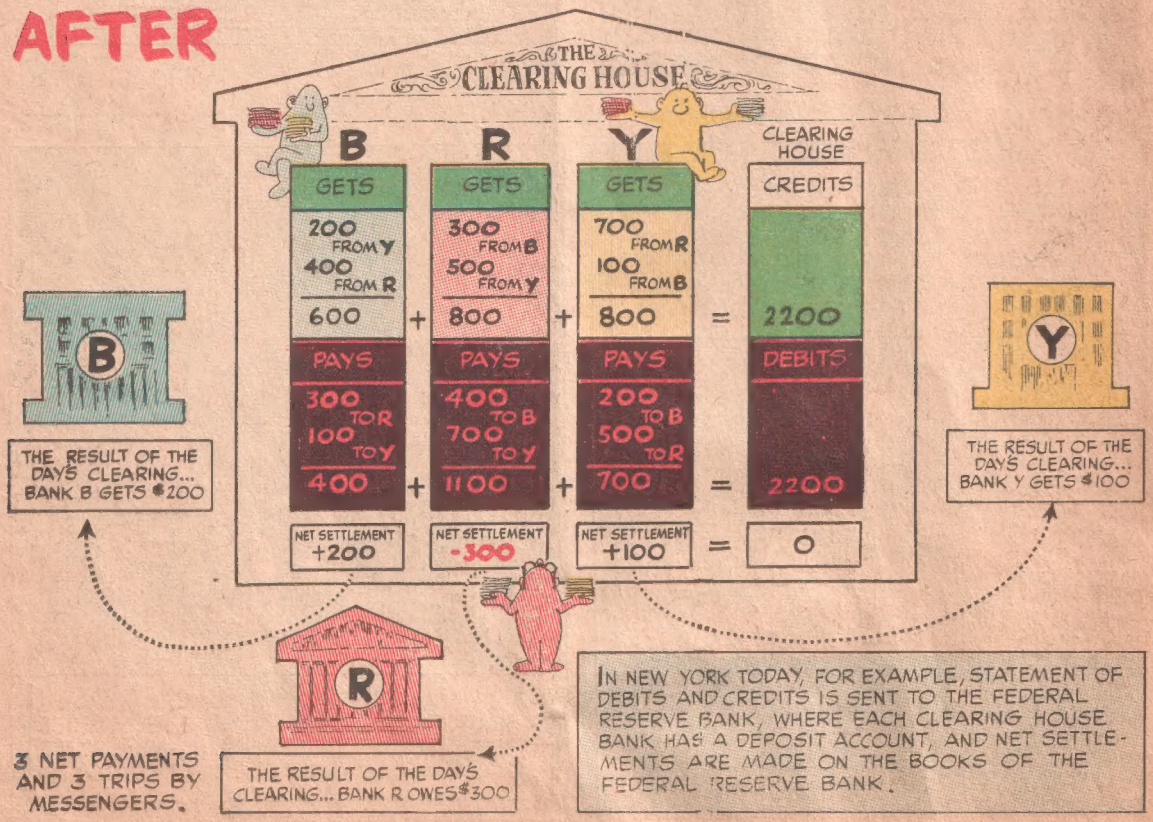
SO THE CLEARING HOUSE SIMPLIFIES THE CHECK CLEARING OPERATION...

# BEFORE


B
BANK B DELIVERS $400 IN CHECKS DRAWN ON BANK R...
... AND RECEIVES $400 IN CASH
R
BANK R SENDS $300 IN CHECKS TO BANK B...
... AND RECEIVES $300 IN CASH
BANK B SENDS BANK Y $200 IN CHECKS...
... AND RECEIVES $200 IN CASH
Y
BANK Y SENDS BANK B $100 IN CHECKS...
... AND RECEIVES $100 IN CASH
BANK R SENDS $500 IN CHECKS...
... AND BANK Y RETURNS $500 IN CASH
BANK Y SENDS BANK R $700 IN CHECKS...
... AND RECEIVES $700 IN CASH

6 PAYMENTS AND 6 SEPARATE TRIPS BY MESSENGERS

# AFTER



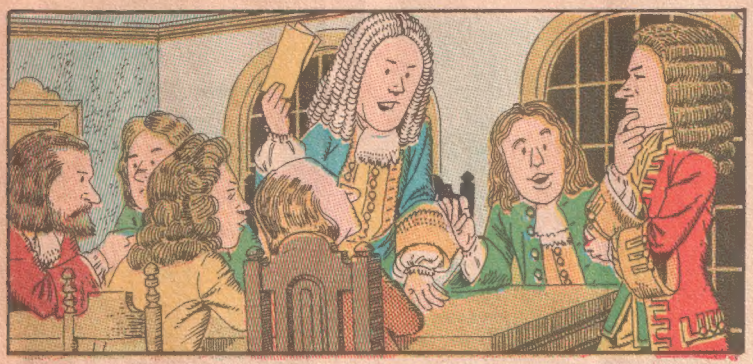

3 NET PAYMENTS AND 3 TRIPS BY MESSENGERS.

IN NEW YORK TODAY, FOR EXAMPLE, STATEMENT OF DEBITS AND CREDITS IS SENT TO THE FEDERAL RESERVE BANK, WHERE EACH CLEARING HOUSE BANK HAS A DEPOSIT ACCOUNT, AND NET SETTLEMENTS ARE MADE ON THE BOOKS OF THE FEDERAL RESERVE BANK.

# CHECKS *in the* UNITED STATES

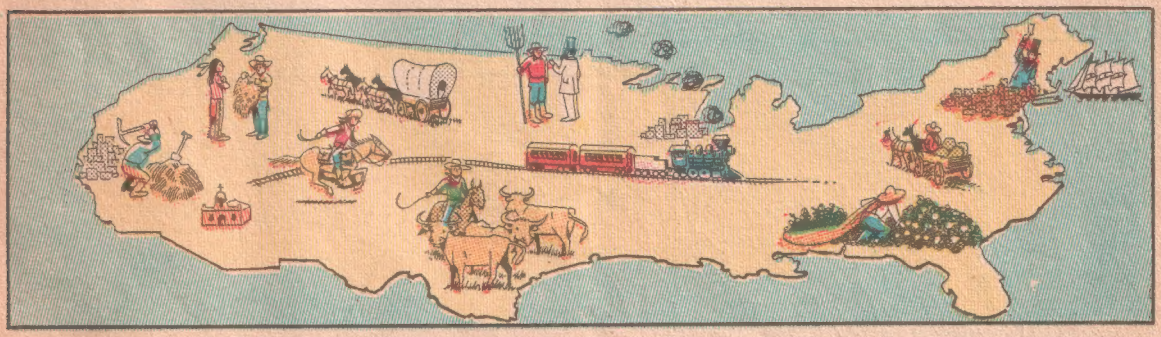
# THE FIRST STAGE

MORE CHECKS ARE USED IN THE UNITED STATES THAN IN ANY OTHER COUNTRY. CHECKS FIRST CAME INTO USE HERE WITH A FAMOUS EXPERIMENT CALLED "THE FUND AT BOSTON IN NEW ENGLAND," A PIONEERING ATTEMPT IN 1681 BY NEW ENGLAND BANKERS TO SET UP A REGIONAL CHECK-CLEARING SYSTEM.



THEY HOPED TO MAKE CREDIT AVAILABLE FOR BUSINESS PAYMENTS WITHIN NEW ENGLAND. THEY WERE TO DO THIS THROUGH TRANSFERS OF BALANCES AMONG PARTICIPATING BANKS BY MEANS OF CHECKS "THE FUND" HOPED WOULD BECOME CURRENCY.

CHECKS REALLY CAME INTO THEIR OWN IN AMERICA IN THE 19TH CENTURY. BY 1855 WITH THE FABULOUS GROWTH OF CITIES AND IMPROVEMENTS IN COMMUNICATIONS AND WITH CHEAP UNIFORM POSTAL RATES, CHECKS HAD DEFINITELY SURPASSED BANK NOTE CURRENCY AS A MEANS OF PAYMENT IN BUSINESS TRANSACTIONS EXCEPT IN RURAL REGIONS.

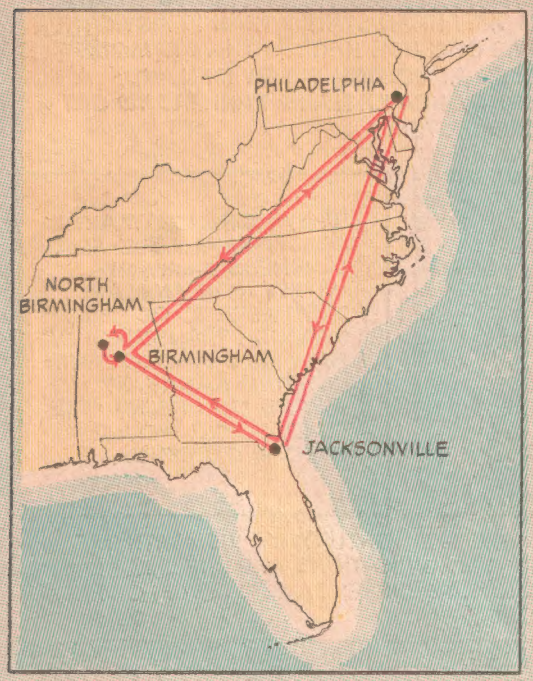


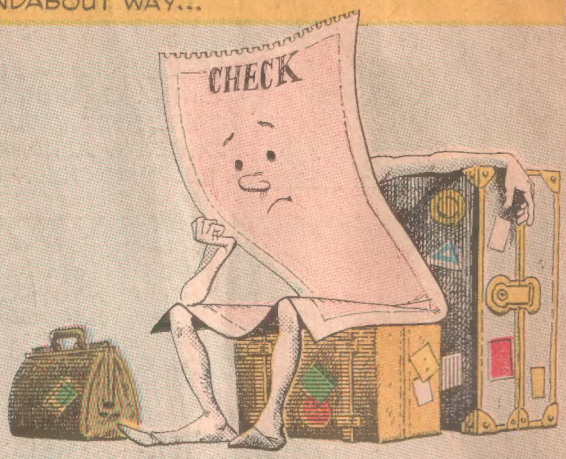
BUT THE COUNTRY LACKED A CENTRAL CLEARING MECHANISM FOR CHECKS. BANKS THAT HAD FREQUENT TRANSACTIONS WITH EACH OTHER SET UP ACCOUNTS WITH EACH OTHER AND THUS CHECKS WERE HANDLED WITH EASE BETWEEN SUCH "CORRESPONDENT" BANKS, BUT...

OTHER BANKS WOULD CHARGE A FEE--"AN EXCHANGE CHARGE"--LEVIED BY A LOCAL BANK ON AN OUT-OF-TOWN BANK PRESENTING CHECKS FOR PAYMENT BY THE LOCAL BANK.

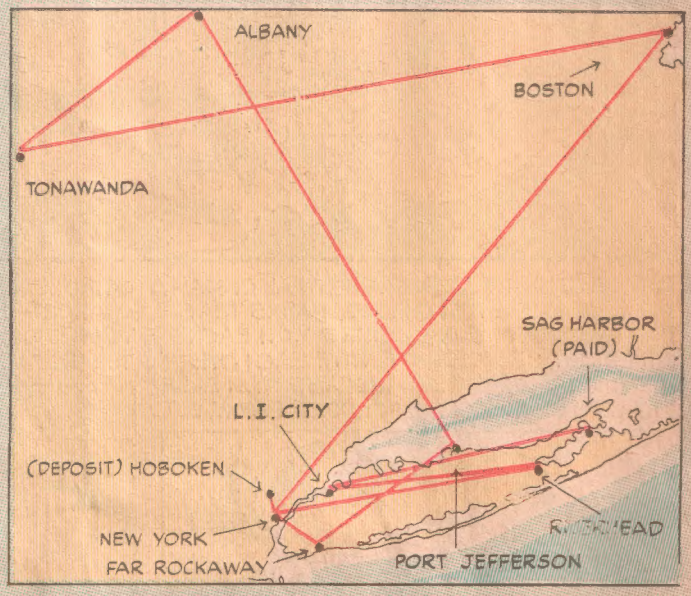
THESE CHARGES WERE A MAJOR SOURCE OF INCOME TO MANY BANKS...BUT THE CHARGES MADE A CHECK DRAWN ON, SAY, A CHICAGO BANK, WORTH LESS IN NEW YORK THAN ITS FACE VALUE.

TO AVOID THE EXCHANGE CHARGE A BANK WOULD SEND OUT-OF-TOWN CHECKS NOT BY THE MOST DIRECT ROUTE, BUT TO ITS "CORRESPONDENT" BANK. THE CORRESPONDENT IN TURN WOULD SEND THE CHECK TO *ITS* CORRESPONDENT... THE RESULT--CHECKS SOMETIMES TOOK A LONG TIME TO BE COLLECTED AND WENT A ROUNDABOUT WAY...




FOR EXAMPLE: A CHECK DRAWN ON A NORTH BIRMINGHAM BANK AND DEPOSITED IN A BIRMINGHAM BANK 4 MILES AWAY, TRAVELED 4,500 MILES AND TOOK 14 DAYS TO GET TO THE BANK ON WHICH IT WAS DRAWN.
THE CHECK WENT FROM BIRMINGHAM TO JACKSONVILLE AND THEN TO PHILADELPHIA TO GET TO NORTH BIRMINGHAM. WHEN PAYMENT WAS REFUSED IT TRAVELED THE SAME ROUTE IN REVERSE TO GET BACK TO BIRMINGHAM.




ANOTHER EXAMPLE IS THAT OF A CHECK DRAWN ON A SAG HARBOR, N.Y. BANK AND DEPOSITED IN HOBOKEN, N.J. 93 MILES AWAY, THAT PASSED THROUGH 11 BANKS, TRAVELED 1,233 MILES IN 11 DAYS TO AVOID EXCHANGE CHARGES. TODAY IT WOULD GO 93 MILES IN LESS THAN TWO DAYS.

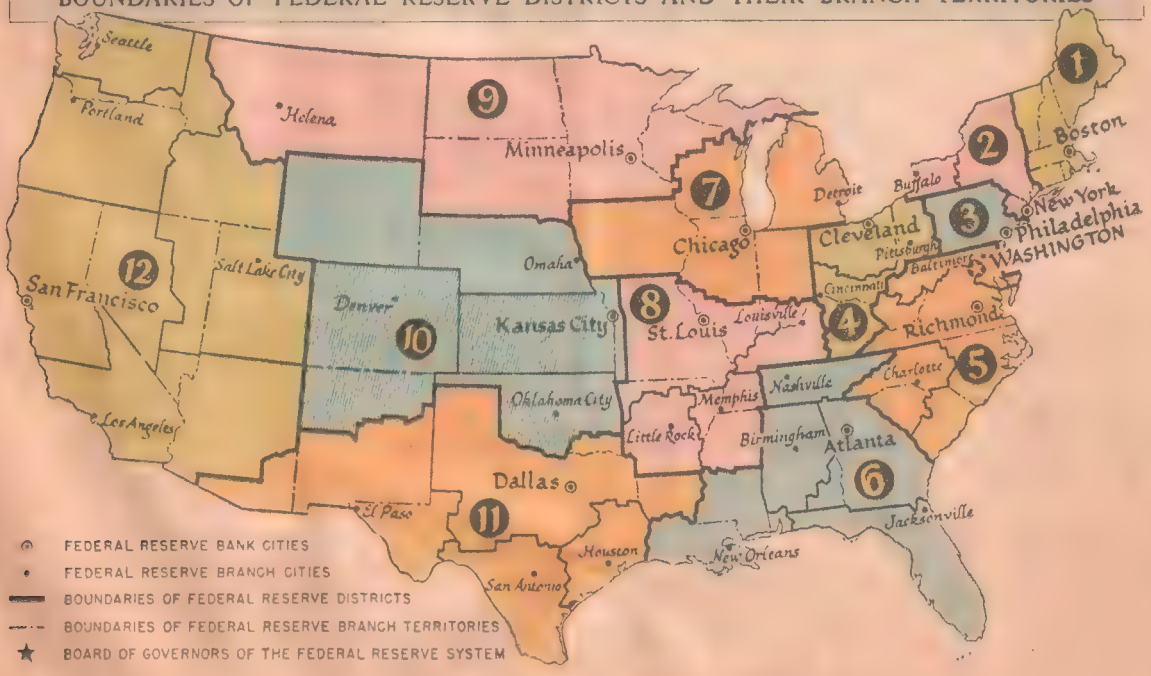
# THE SECOND STAGE...
## THE FEDERAL RESERVE SYSTEM

WHEN PRESIDENT WILSON SIGNED THE FEDERAL RESERVE ACT IN 1913, THIS MARKED THE SECOND STAGE IN THE STORY OF CHECKS IN THE UNITED STATES.

THE ACT PROVIDES THAT EACH FEDERAL RESERVE BANK SERVE AS A CHECK CLEARING AND COLLECTION CENTER FOR THE BANKS IN ITS DISTRICT THAT HAVE ACCOUNTS WITH IT. THE SYSTEM PROVIDES A NATIONAL CLEARING MECHANISM THAT ELIMINATES THE LENGTHY AND CIRCUITOUS REROUTING THAT FREQUENTLY TOOK PLACE UNDER THE OLD SYSTEM. A MEMBER BANK NOW RECEIVING CHECKS PAYABLE OUT OF TOWN MAY CLEAR THE CHECKS THROUGH ITS FEDERAL RESERVE BANK OR BRANCH, OR MAY USE ITS CORRESPONDENT BANKING CONNECTIONS TO DO AT LEAST PART OF THE JOB. CITY BANKS ENCOURAGE THEIR COUNTRY BANK "COUSINS" TO USE THEIR SPECIAL COLLECTION FACILITIES. THE CORRESPONDENT BANKING SYSTEM AND THE FEDERAL RESERVE SYSTEM WORK HAND IN HAND TO PROCESS THE EVER-RISING VOLUME OF CHECKS THAT NEED TO BE COLLECTED.

DURING 1957 THE FEDERAL RESERVE SYSTEM HANDLED MORE THAN 3.7 BILLION CHECKS AMOUNTING TO OVER 1.1 TRILLION DOLLARS. ALSO, OF COURSE, MANY OTHER CHECKS WERE COLLECTED BY CITY CORRESPONDENT BANKS, LOCAL CLEARING HOUSES, OR BY DIRECT PRESENTATION FROM ONE BANK TO ANOTHER.

## THE FEDERAL RESERVE SYSTEM
BOUNDARIES OF FEDERAL RESERVE DISTRICTS AND THEIR BRANCH TERRITORIES



# DOLLAR-SWITCHING

TO MOVE MONEY AROUND, A CHECK HAS TO FIND A SINGLE SET OF BOOKS SOMEWHERE -- A DOLLAR-SWITCHING CENTER IN THE PAYMENTS CIRCUIT--WHERE A BOOKKEEPER CAN SUBTRACT THE AMOUNT OF THE CHECK FROM ONE ACCOUNT AND ADD IT TO ANOTHER.

## *HOW THE SYSTEM WORKS*

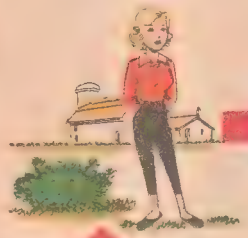
***LOCAL CENTERS***... PEOPLE AND ORGANIZATIONS HAVE THEIR DEPOSITS IN COMMERCIAL BANKS. A BANK SERVES AS A SET OF BOOKS FOR ITS CUSTOMERS, AND A CLEARING HOUSE DOES THE SAME FOR LOCAL BANKS.

***NATIONAL AND REGIONAL CENTERS***... BANKS HAVE DEPOSITS AT FEDERAL RESERVE AND CORRESPONDENT BANKS AND PAY EACH OTHER BY SHIFTING BALANCES--DEBITING AND CREDITING EACH OTHER--IN SUCH DEPOSIT ACCOUNTS. RESERVE AND CORRESPONDENT BANKS SWITCH CHECKBOOK DOLLARS FOR BANKS.

***FEDERAL RESERVE CENTERS***... FEDERAL RESERVE BANKS PAY EACH OTHER FOR THE RESULTS OF THEIR NUMEROUS DAILY TRANSACTIONS WITH ONE ANOTHER BY SETTLING NET BALANCES --THE FINAL RESULTS OF EACH DAY'S TOTAL DOLLAR-SWITCHING--ON THE BOOKS OF THE INTERDISTRICT SETTLEMENT FUND THEY MAINTAIN IN WASHINGTON.

TO SEE HOW THE FEDERAL RESERVE SYSTEM FITS TOGETHER, LET'S TRACE A CHECK THROUGH ITS COLLECTION AND CLEARING FACILITIES --

SUPPOSE MRS. HENDERSON, LIVING IN ALBANY, N.Y., BUYS A PAINTING FROM AN ART DEALER IN SACRAMENTO, CALIFORNIA.



SHE SENDS HER CHECK

1

THE DEALER DEPOSITS THE CHECK IN HIS ACCOUNT AT A SACRMENTO BANK.

SACRAMENTO BANK

2

THE SACRAMENTO BANK DEPOSITS THE CHECK FOR CREDIT IN ITS ACCOUNT AT THE FEDERAL RESERVE BANK OF SAN FRANCISCO.

FEDERAL RESERVE BANK OF SAN FRANCISCO

3

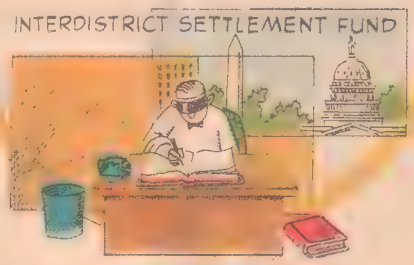
THE FEDERAL RESERVE BANK OF SAN FRANCISCO SENDS THE CHECK TO THE FEDERAL RESERVE BANK OF NEW YORK FOR COLLECTION.

FEDERAL RESERVE BANK OF NEW YORK

4

THE FEDERAL RESERVE BANK OF NEW YORK FORWARDS THE CHECK TO THE ALBANY BANK WHICH DEDUCTS THE AMOUNT OF THE CHECK FROM MRS. HENDERSON'S ACCOUNT.

ALBANY BANK




5

THE ALBANY BANK AUTHORIZES THE FEDERAL RESERVE BANK OF NEW YORK TO DEDUCT THE AMOUNT OF THE CHECK FROM ITS DEPOSIT ACCOUNT WITH THE RESERVE BANK.

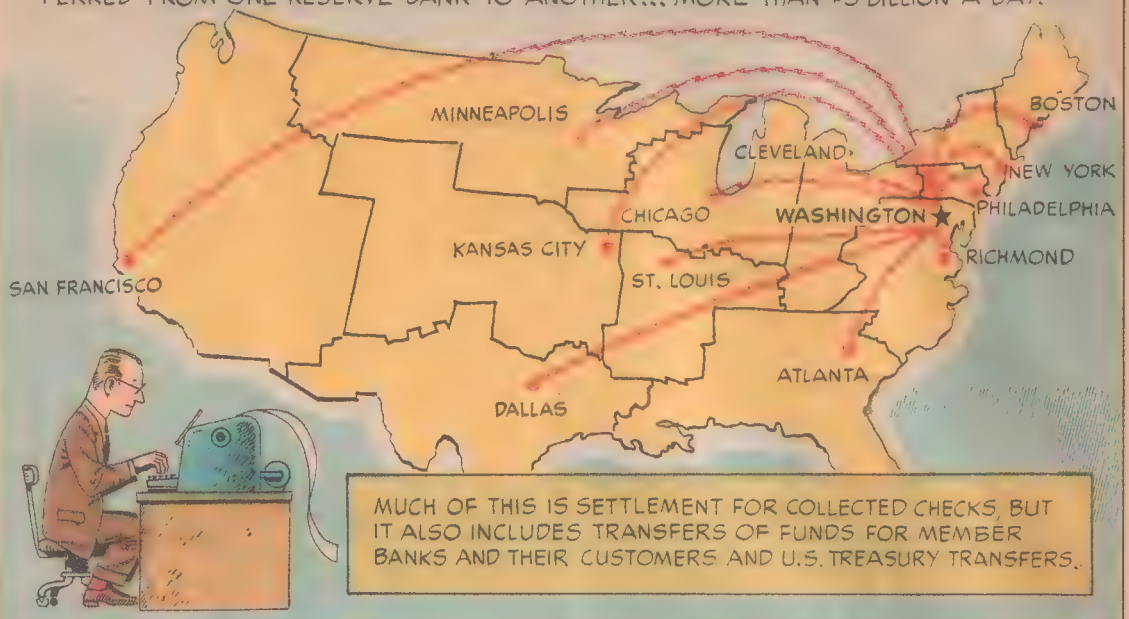
6

THE FEDERAL RESERVE BANK OF NEW YORK PAYS THE FEDERAL RESERVE BANK OF SAN FRANCISCO BY PAYMENT FROM ITS SHARE IN THE INTERDISTRICT SETTLEMENT FUND.

7

THE FEDERAL RESERVE BANK OF SAN FRANCISCO CREDITS THE SACRAMENTO BANK'S DEPOSIT ACCOUNT AND THE SACRAMENTO BANK CREDITS THE ART DEALER'S ACCOUNT.

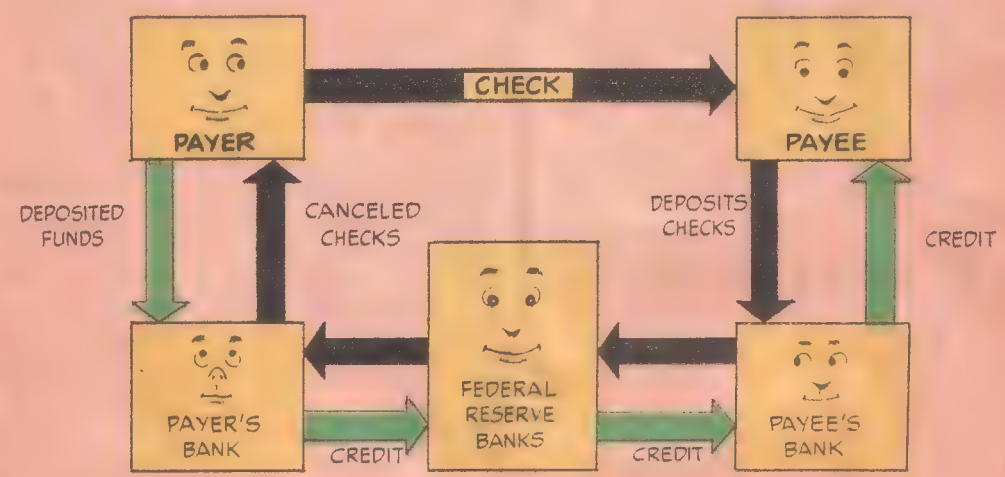
THE CENTRAL NERVOUS SYSTEM OF THE FEDERAL RESERVE IS ITS TELEGRAPHIC WIRE TRANSFER SYSTEM. IT LINKS THE RESERVE BANKS WITH EACH OTHER AND THE INTERDISTRICT SETTLEMENT FUND. THROUGH IT MONEY IS CONSTANTLY BEING TRANSFERRED FROM ONE RESERVE BANK TO ANOTHER... MORE THAN $5 BILLION A DAY.




MUCH OF THIS IS SETTLEMENT FOR COLLECTED CHECKS, BUT IT ALSO INCLUDES TRANSFERS OF FUNDS FOR MEMBER BANKS AND THEIR CUSTOMERS AND U.S. TREASURY TRANSFERS.

THE COST OF COLLECTING AND CLEARING CHECKS IS A MAJOR PART OF RESERVE BANK EXPENSES. BUT, CONSISTENT WITH THE IDEAL OF A MONEY THAT CIRCULATES AT THE SAME VALUE THROUGHOUT THE COUNTRY, THESE AND OTHER SERVICES ARE RENDERED FREE OF CHARGE...

TO SUM UP THE ELEMENTS OF OUR CHECK COLLECTION SYSTEM, THEN, WE HAVE...




--MONEY MOVING AROUND THE COUNTRY IN BILLIONS BY TRANSFER OF CREDIT FROM ONE BANK ACCOUNT TO ANOTHER--CHEAPLY, QUICKLY, AND SAFELY TO PROMOTE COMMERCE.

**BUT IT'S A BIG JOB...** TODAY THE LARGEST CHECK OPERATION IN THE WORLD IS AT THE HEAD OFFICE OF THE SECOND FEDERAL RESERVE DISTRICT....

# THE FEDERAL RESERVE BANK OF NEW YORK

## CHECK BOOK MONEY FLOWS THROUGH THIS BANK TO THE TUNE OF

## $1,500,000,000 EVERY DAY!

SECOND DISTRICT BANKS AND GOVERNMENT AGENCIES-68%

BANKS IN OTHER DISTRICTS THAT DEAL DIRECTLY-27%

OTHER FEDERAL RESERVE BANKS 5%

SECOND DISTRICT BANKS-49%

NEW YORK CLEARING HOUSE-33%

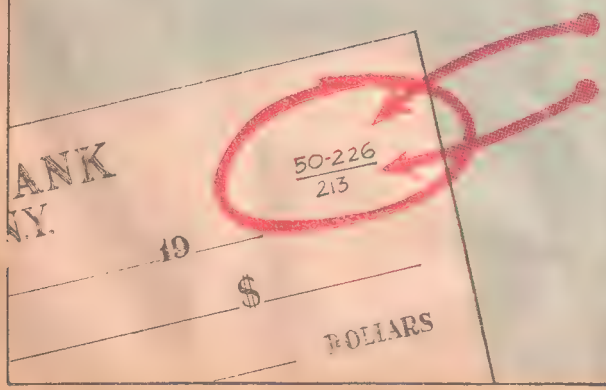
OTHER CLEARING ASSOCIATIONS-5%

OTHER FEDERAL RESERVE BANKS-4%

U.S. TREASURY-9%

## 2,200,000 CHECKS PER 24 HOURS!

ALL THESE CHECKS HAVE TO BE SORTED AS TO THEIR DESTINATION. THIS IS AIDED BY A SYMBOL PRINTED ON THE UPPER RIGHT-HAND CORNER OF THE CHECK.

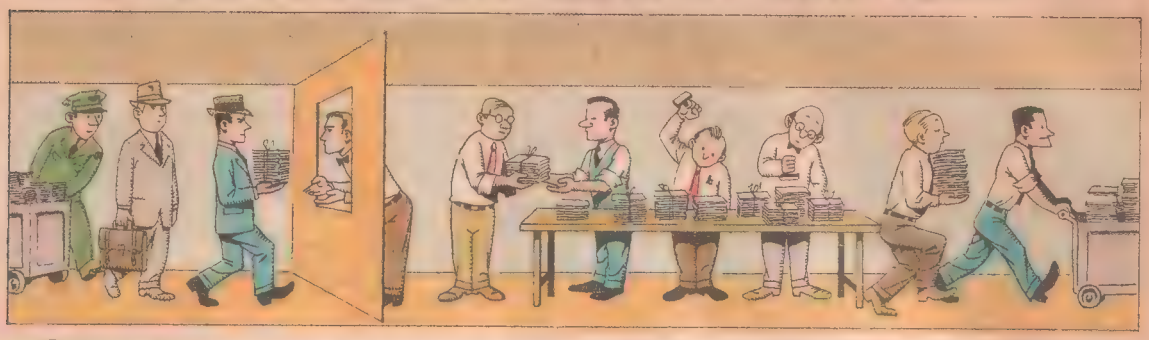



THE TOP NUMBER IS CALLED THE TRANSIT NUMBER--IT IDENTIFIES THE DRAWEE BANK.

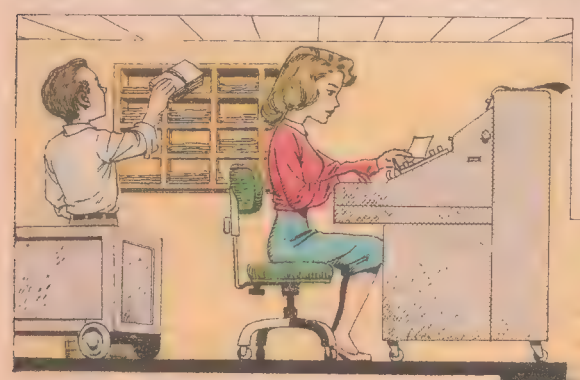
THE BOTTOM NUMBER IS CALLED THE ROUTING SYMBOL...THE FIRST DIGIT IS THE NUMBER OF THE FEDERAL RESERVE DISTRICT (FOR 10TH, 11TH, AND 12TH DISTRICTS, THE FIRST TWO DIGITS). THE NEXT DIGIT INDICATES TO WHICH FEDERAL RESERVE OFFICE IN THAT DISTRICT THE CHECK SHOULD BE SENT. THE LAST DIGIT SHOWS WHEN THE RESERVE WILL GIVE THE DEPOSITING BANK CREDIT. ZERO MEANS IMMEDIATE CREDIT, ONE OR A HIGHER NUMBER MEANS DEFERRED CREDIT.

# INSIDE the CHECK DEPARTMENT

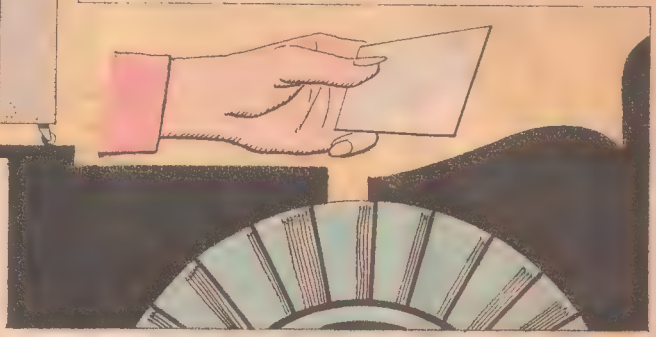
## FEDERAL RESERVE BANK OF NEW YORK



BUNDLES OF CHECKS, THEIR DOLLAR AMOUNTS LISTED ON ATTACHED ADDING MACHINE TAPES, ARE BROUGHT TO BE PROCESSED. FIRST THE TAPES ARE STAMPED WITH THE DATE WHEN THE RESERVE BANK WILL GIVE THE DEPOSITING BANK CREDIT.



THEN CLERKS USE ELECTRIC MACHINES TO SORT THE CHECKS ACCORDING TO THE BANKS ON WHICH THEY ARE DRAWN AND AT THE SAME TIME TO ADD UP THE CHECKS IN EACH INCOMING BUNDLE. THE CHECK TRANSIT NUMBER–ROUTING SYMBOL IS THE OPERATOR'S GUIDE IN PUTTING EACH CHECK INTO ITS PROPER POCKET ON THE REVOLVING DRUM IN THE MACHINE.



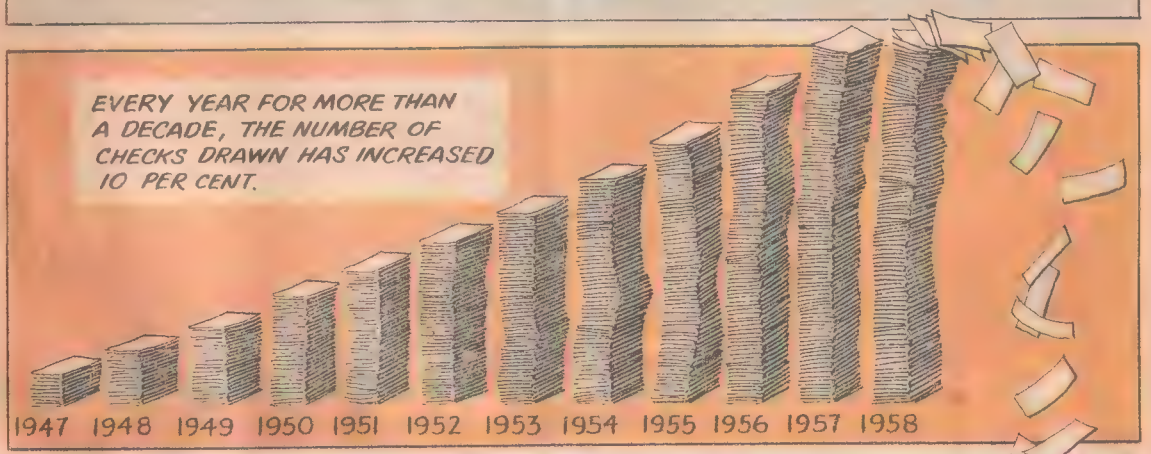
A MACHINE MAY HAVE 24 OR 32 POCKETS, WITH AN ADDING MACHINE TAPE FOR EACH POCKET PLUS A MASTER TAPE THAT RECORDS BOTH A RUNNING LIST AND THE POCKET IN WHICH EACH CHECK IS PLACED.

AFTER SORTING, THE CHECKS ARE PACKAGED AND SENT ON THEIR WAY BY MAIL, EXPRESS, AND MOTOR CARRIER. DURING THE LIFE OF THE FEDERAL RESERVE SYSTEM CHECK COLLECTION HAS GOTTEN MUCH FASTER, MAINLY BECAUSE OF AIR TRANSPORTATION.

# 6½ BILLION CHECKBOOK DOLLARS
## MOVE AROUND THE UNITED STATES EACH DAY

MORE THAN 30 MILLION CHECKS ARE WRITTEN EACH DAY AND THE SAME NUMBER ARE DEPOSITED IN OR CASHED AT BANKS.

*EVERY YEAR FOR MORE THAN A DECADE, THE NUMBER OF CHECKS DRAWN HAS INCREASED 10 PER CENT.*




BY 1970

WE CAN ANTICIPATE 22 BILLION CHECKS A YEAR!

***WHAT TO DO ABOUT THIS PROSPECTIVE FLOOD OF CHECKS?***

BANKS, ALREADY HARD PRESSED FOR CLERICAL HELP AND FACING RISING COSTS, HAVE BEEN PLANNING FOR THE FUTURE VOLUME OF CHECKS. INDEED THE PLANS PROMISE SOON TO USHER IN THE THIRD STAGE IN THE STORY OF CHECKS... ***AUTOMATION!***

THE THIRD STAGE IN THE STORY OF CHECKS...

# AUTOMATION

## Federal Reserve Banks Move Ahead on Check Automation Plans

NEW YORK CITY, Dec. 1957—Federal Reserve Banks have engaged a leading business research institute to prepare "operational performance specifications" for further mechanizing their check handling operations. The institute is hired to come up by March 1958 with detailed descriptions, to be used by machine designers, of what the future equipment should be able to do. The equipment will be made in conformity with American Bankers Association recommendations on the use of magnetic ink as a means of recognizing printed characters.

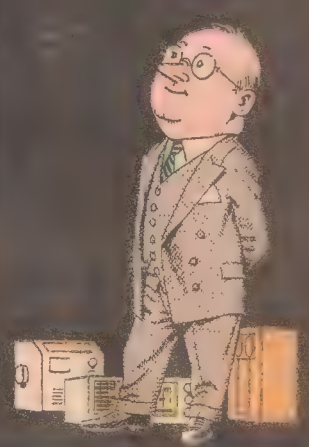
## AUTOMATION IN PROCESSING BANK CHECKS EXPECTED TO BEGIN SOON

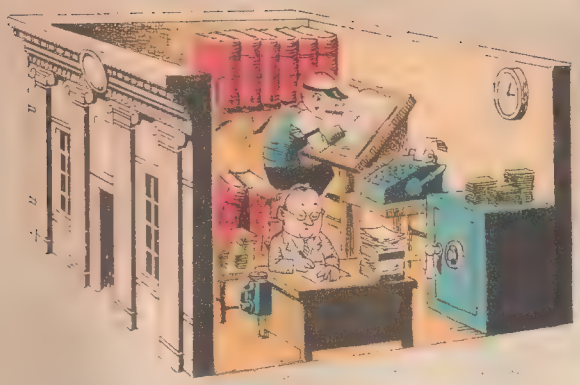
ATLANTIC CITY, Sept. 1957—Electronic equipment that will enable banks to process checks automatically — long a goal of bankers — is expected to begin to become available within two years, a spokesman for the American Bankers Association and leading electronics equipment makers said here. The equipment will use magnetic ink as a means of "reading" data printed on checks.

## Reserve asks Manufacturers to Produce Magnetic Ink Equipment

NEW YORK CITY, April 1958—As part of a long-range program to further mechanize check handling, the twelve Federal Reserve Banks have joined in asking manufacturers to submit proposals for new high-speed document handling equipment. The Reserve Banks hope that pilot installations of the new equipment may be made in selected Federal Reserve offices by late 1959. Stanford Research Institute of Menlo Park, California, has prepared operational performance specifications for the equipment to meet the needs of the Banks.

The specifications call for equipment that employs Magnetic Ink Character Recognition as the Common Machine Language for the automatic processing of checks in conformity with the present recommendations of the Bank Management Commission of the American Bankers Association. The Federal Reserve Bank of New York, acting in behalf of all Federal Reserve Banks, has issued invitations for manufacturers' proposals and asked that written proposals be submitted on or before June 30, 1958. Stanford Research Institute will continue to act as scientific adviser to the Federal Reserve Banks.



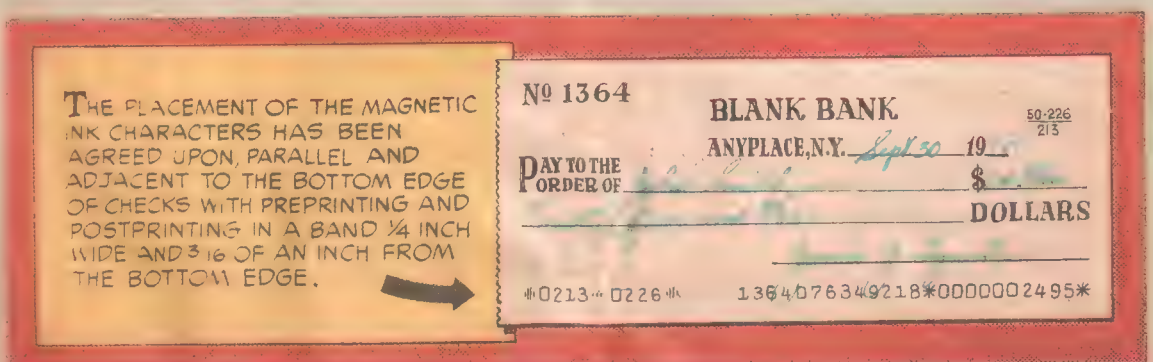


THE GREEN-VISORED CLERK PERCHED ON A HIGH STOOL, WHO QUILLED THE DEBITS AND CREDITS OF COMMERCE, IS GONE FOREVER. SINCE WILLIAM S. BURROUGHS INVENTED THE ADDING MACHINE IN 1885, A RADICAL REVOLUTION HAS TAKEN PLACE IN OFFICE WORK. THE PUNCHED CARD, KEY TO ELECTRONIC PROCESSING OF DATA IN MANY MACHINES, WAS INVENTED BY HERMAN HOLLERITH IN 1887, BUT WAS NOT USED WIDELY IN BANKING UNTIL AFTER WORLD WAR II.

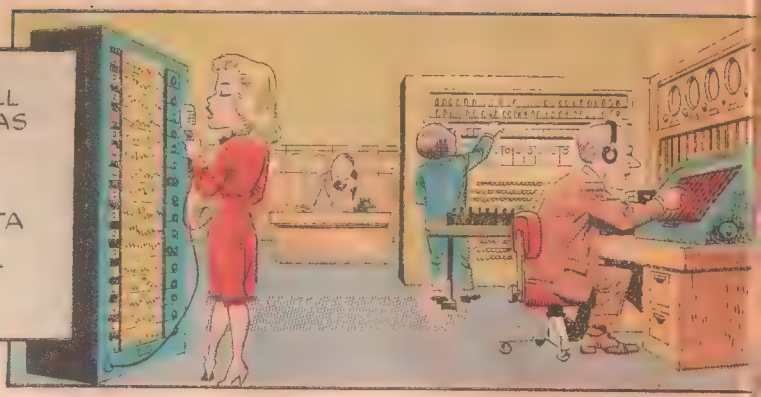
WE NOW HAVE DIGITAL COMPUTERS, WHICH THROUGH THE SPEED OF ELECTRICITY, CAN ADD AND SUBTRACT MILLIONS OF FIGURES IN ORDERLY SEQUENCE. WITH THEIR AID, IT HAS BEEN ESTIMATED 95 PER CENT OF ALL BANK BOOKKEEPING OPERATIONS CAN BE MECHANIZED.

FIRST STEPS TOWARDS MECHANIZED CHECK HANDLING HAVE ALREADY BEEN TAKEN. WITH THE AGREEMENT IN 1957 TO USE MAGNETIC INK CHARACTERS TO CODE CHECKS WITH A "COMMON MACHINE LANGUAGE," THE AMERICAN BANKERS ASSOCIATION HAS MADE A DECISION PROBABLY OF MORE IMPACT THAN ANY OTHER BANK OPERATIONS PROJECT IN THE TWENTIETH CENTURY. MAGNETIC INK WILL PROVIDE A STANDARD SYSTEM FOR MACHINE READING AND PROCESSING FOR MILLIONS OF CHECKING ACCOUNTS IN THE FACE OF VARYING MACHINE DESIGNS, CHECK SIZES, HANDLING PROCEDURES, ETC. IT MAY DO FOR CHECK HANDLING WHAT INTERCHANGEABLE PARTS DID FOR THE AUTO BUSINESS.

THE PLACEMENT OF THE MAGNETIC INK CHARACTERS HAS BEEN AGREED UPON, PARALLEL AND ADJACENT TO THE BOTTOM EDGE OF CHECKS WITH PREPRINTING AND POSTPRINTING IN A BAND ¼ INCH WIDE AND 3/16 OF AN INCH FROM THE BOTTOM EDGE.



MACHINES ARE PLANNED THAT WILL HANDLE ALL THE ACCOUNTING FOR AS MANY AS 50,000 ACTIVE BANK ACCOUNTS. THEY WOULD USE MAGNETIZED TAPES, DISCS, OR DRUMS TO STORE STATISTICAL DATA ESSENTIALLY AS A TAPE RECORDER DOES AND PROCESS THIS INFORMATION ELECTRICALLY.



THESE DEVELOPMENTS FORESHADOW A SHIFT FROM MANUAL TO MACHINE CHECK HANDLING. THIS SHIFT WILL AT ONCE CREATE NEW AND INTERESTING JOBS AND ELIMINATE SOME OF THE MORE TEDIOUS AND MONOTONOUS JOBS IN BANKING. BECAUSE MACHINE PRODUCTION HAS INCREASED SO RAPIDLY, OUR ECONOMY REQUIRES MORE AND MORE PAPER WORK. SINCE THE YEAR 1900 CLERICAL WORKERS HAVE INCREASED FROM 2 PER CENT TO 14 PER CENT OF THE WORKING POPULATION. BANKERS EXPECT THAT EVEN WITH MECHANIZATION THE GROWTH OF BANKING ITSELF WILL REQUIRE INCREASING NUMBERS OF WORKERS.

# A Summary

THE USE OF CHECKS WHICH WE TODAY TAKE FOR GRANTED...

HAS A LONG AND AT TIMES COLORFUL HISTORY...

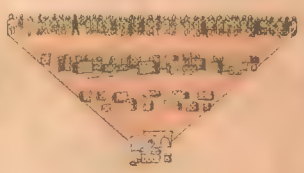
THAT INCLUDED NEW IDEAS...

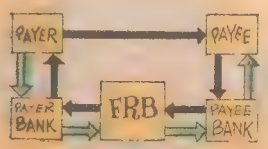
SUCH AS THE CLEARING HOUSE — THAT HAD USES NOT IMMEDIATELY RECOGNIZED.

AFTER SOME MISTAKES, SUCH AS LONG TRIPS FOR THE COLLECTION OF CHECKS...

THE FEDERAL RESERVE SYSTEM WAS ESTABLISHED. AMONG OTHER THINGS IT PROVIDES THE PUBLIC A SPEEDY, SAFE AND CHEAP SYSTEM OF CHECK COLLECTION AT FACE VALUE...

NET BALANCES ARE SETTLED LOCALLY, REGIONALLY AND NATIONALLY THROUGH THE RESERVE SYSTEM AND CLEARING HOUSES.






CHECKS MOVE MONEY WITHOUT THE NEED TO SHIP CURRENCY. BY TRANSMITTING BITS OF FINANCIAL INFORMATION THEY MOVE PIECES OF CHECKING ACCOUNT DEPOSITS FROM BANK TO BANK.

SOON CHECKS MAY BE PROCESSED MORE EFFICIENTLY BY ELECTRONICS.

# Glossary

(These brief definitions could in some instances be amplified.)

**ASSET** – ANYTHING OF VALUE IS AN ASSET OF THE OWNER. ASSETS ALSO INCLUDE OBLIGATIONS DUE FROM OTHERS AND CLAIMS AGAINST OTHERS. ASSETS ARE USUALLY EXPRESSED IN DOLLAR AMOUNTS.

**BILL OF EXCHANGE** – A WRITTEN ORDER ADDRESSED BY ONE PERSON (*THE DRAWER*) TO ANOTHER PERSON (*THE DRAWEE*) REQUIRING THE DRAWEE TO PAY, ON DEMAND OR AT A FIXED OR DETERMINABLE FUTURE TIME, A SPECIFIED SUM OF MONEY TO THE ORDER OF THE PAYEE OR TO BEARER. THE TERMS "BILL OF EXCHANGE" AND "DRAFT" ARE SOMETIMES USED INTERCHANGEABLY.

**CENTRAL BANK** – A BANK WHICH DEALS CHIEFLY WITH OTHER BANKS IN HOLDING THE BANKING RESERVES OF ITS COUNTRY OR DISTRICT AND REGULATING AVAILABLE BANKING CREDIT. CENTRAL BANKS ARE NORMALLY GOVERNMENT AGENCIES OR GOVERNMENT-RELATED AGENCIES, AND OPERATE IN THE BROAD PUBLIC INTEREST. IN THE UNITED STATES, CENTRAL BANKING FUNCTIONS ARE CARRIED ON BY THE TWELVE REGIONAL FEDERAL RESERVE BANKS UNDER THE SUPERVISION OF THE BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM. IN MANY OTHER COUNTRIES THERE IS BUT A SINGLE INSTITUTION THAT FUNCTIONS AS A CENTRAL BANK, E.G., BANK OF ENGLAND.

**CHECK** – A CHECK IS ONE TYPE OF BILL OF EXCHANGE, BUT IT MAY BE DISTINGUISHED FROM THE OTHER TYPES IN THAT IT IS ALWAYS DRAWN ON A BANK AND IS ALWAYS PAYABLE ON DEMAND.

**CLEARING HOUSE** – AN ORGANIZATION, ESTABLISHED VOLUNTARILY BY BANKS IN THE SAME COMMUNITY OR LOCALITY, THROUGH WHICH CHECKS, DRAFTS, NOTES AND OTHER ITEMS HELD BY EACH ASSOCIATED BANK AND PAYABLE BY THE OTHERS ARE EXCHANGED AND PAID FOR. IT MAY ALSO FORMULATE POLICIES AND RULES FOR THE MUTUAL WELFARE OF THE ASSOCIATED BANKS.

**COMMERCIAL BANK** – ALL PURPOSE BANK--ACCEPTS DEMAND DEPOSITS-CHECKING ACCOUNTS OF INDIVIDUALS, PARTNERSHIPS AND CORPORATIONS; OFFERS MANY FAMILY, BUSINESS AND BANKING SERVICES; HANDLES THE NATION'S CHECKBOOK MONEY AND ENCOURAGES SAVINGS; PRINCIPAL SOURCE OF SHORT-TERM FUNDS FOR BUSINESS CONCERNS AND FARMERS; PROVIDES LOANS TO INDIVIDUALS FOR PERSONAL NEEDS AND TO FINANCE PURCHASES OF HOMES, AUTOMOBILES AND OTHER DURABLE CONSUMER GOODS; MAJOR INVESTOR IN GOVERNMENT SECURITIES, MUNICIPAL, AND CORPORATE BONDS.

**CORRESPONDENT BANK** – A BANK THAT SERVES AS A DEPOSITORY OR PERFORMS BANKING SERVICES FOR ANOTHER BANK, USUALLY LOCATED OUT OF TOWN.

**CURRENCY** – COIN OR PAPER MONEY, ISSUED BY A GOVERNMENT OR CENTRAL BANK WHICH CIRCULATES AS A LEGAL MEDIUM OF EXCHANGE.

**DEMAND DEPOSIT** – A DEPOSIT IN A BANK WHICH MAY BE WITHDRAWN WITHOUT ADVANCE NOTICE, E.G., A CHECKING ACCOUNT.

**ENDORSEMENT** – THE SIGNATURE OF THE PAYEE OR OTHER HOLDER OF A NEGOTIABLE INSTRUMENT, USUALLY APPEARING ON THE BACK OF THE INSTRUMENT, BY WHICH THE INSTRUMENT IS TRANSFERRED OR NEGOTIATED.

**EXCHANGE CHARGE** – A FEE OR SERVICE CHARGE MADE BY THE DRAWEE BANK ON THE PRESENTING BANK FOR ITS SERVICES IN PAYING NEGOTIABLE INSTRUMENTS. THE FEDERAL RESERVE ACT FORBIDS DRAWEE BANKS TO MAKE SUCH CHARGES AGAINST FEDERAL RESERVE BANKS ON CHECKS IN PROCESS OF COLLECTION. THE REASON IS TO ASSURE THAT CHECK MONEY WILL BE PAYABLE THROUGHOUT THE COUNTRY AT ITS FACE VALUE.

**LEGAL TENDER** – AS USED HERE, ANY MONEY THAT, BY LAW, MUST BE ACCEPTED IN PAYMENT OF DEBTS. CHECK MONEY IS NOT LEGAL TENDER.

**LIABILITY** – THE OPPOSITE OF AN ASSET; A DEBT. ORDINARY DEPOSITS IN A BANK ARE DEBTS OWED BY THE BANK TO ITS DEPOSITORS.

**MEMBER BANK** – ALL NATIONAL BANKS ARE AUTOMATICALLY MEMBERS OF THE FEDERAL RESERVE SYSTEM, WHILE STATE BANKS MAY BE ADMITTED TO MEMBERSHIP. MEMBER BANKS ARE REQUIRED BY LAW TO KEEP BALANCES ON DEPOSIT IN FEDERAL RESERVE BANKS AS RESERVES AGAINST THEIR LIABILITIES TO DEPOSITORS; AS STOCKHOLDERS OF THE RESERVE BANKS THE MEMBER BANKS RECEIVE LIMITED DIVIDENDS AND ELECT CERTAIN DIRECTORS OF FEDERAL RESERVE BANKS.

**MUTUAL SAVINGS BANK** – A BANKING ORGANIZATION WITHOUT CAPITAL STOCK WHICH RECEIVES SAVINGS DEPOSITS. ITS EARNINGS ARE DISTRIBUTED, WITHIN LEGAL LIMITS TO ITS DEPOSITORS. MUTUAL SAVINGS BANKS ARE SET UP TO ENCOURAGE THRIFT BY SMALL SAVERS, PRIMARILY.

**NEGOTIABLE INSTRUMENT** – A WRITTEN ORDER OR PROMISE TO PAY MONEY, WHICH MAY BE TRANSFERRED FROM ONE PERSON TO ANOTHER BY ENDORSEMENT AND DELIVERY, OR BY DELIVERY ALONE. TO QUALIFY AS A NEGOTIABLE INSTRUMENT THE INSTRUMENT MUST MEET THE REQUIREMENTS OF THE NEGOTIABLE INSTRUMENTS LAW THERE ARE TWO CLASSES OF INSTRUMENTS; BILLS OF EXCHANGE (INCLUDING CHECKS) AND PROMISSORY NOTES.

**OFFICIAL CHECK** – A CHECK DRAWN BY AN OFFICIAL OF A COMMERCIAL BANK ON THE BANK ITSELF, USED BY A BANK TO PAY ITS BILLS AND OTHER OBLIGATIONS; SOMETIMES PROVIDED TO THE BANK'S CUSTOMERS FOR TRANSACTIONS IN WHICH A PERSONAL CHECK MIGHT NOT BE ACCEPTABLE (ALSO CALLED CASHIER'S OR TREASURER'S CHECK).

**PAYEE** – THE PERSON OR ORGANIZATION TO WHOM A CHECK OR DRAFT OR NOTE IS MADE PAYABLE. THE PAYEE'S NAME FOLLOWS THE EXPRESSION "PAY TO THE ORDER OF."

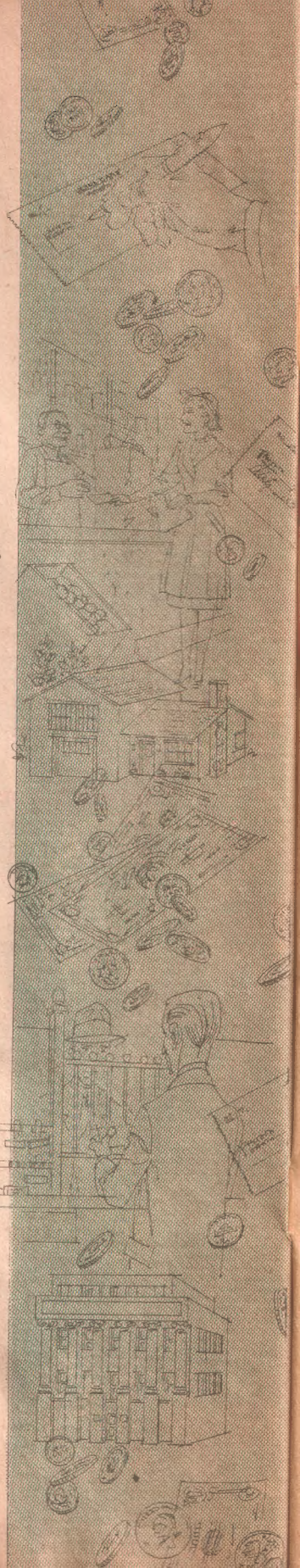
**RECEIPT** – A WRITTEN ACKNOWLEDGEMENT OF THE PAYMENT OF MONEY BY THE ONE RECEIVING IT. THE SIGNATURE OF THE PAYEE ON THE BACK OF A CHECK, AS AN ENDORSEMENT THEREON, SERVES AS A RECEIPT TO THE DRAWER OF THE CHECK, WHEN PAID, FOR THE AMOUNT OF THE CHECK.

**RECOURSE** – THE RIGHT OF THE HOLDER (ENDORSEE OR PAYEE IN POSSESSION) OF A CHECK OR OTHER NEGOTIABLE INSTRUMENT TO COMPEL A PRIOR ENDORSER OR OTHER PARTY TO PAY THE AMOUNT OF THE CHECK OR OTHER NEGOTIABLE INSTRUMENT IF IT IS DISHONORED.

**SIGNATURE CARD** – A CARD SIGNED BY A DEPOSITOR OF A BANK. FREQUENTLY THE CARD CONTAINS THE CONTRACT BETWEEN THE BANK AND ITS CUSTOMER AND RECITES THE RIGHTS AND DUTIES OF BOTH PARTIES.

**STATEMENT** – A RECORD SUPPLIED PERIODICALLY BY A BANK TO ITS DEPOSITORS INDICATING THE TRANSACTIONS IN THE DEPOSITOR'S CHECKING ACCOUNT. ALL CHECKS PAID, DEPOSITS MADE, ALONG WITH THE RESULTING BALANCE, APPEAR IN THE STATEMENT.

**TIME DEPOSIT** – DEPOSIT IN A BANK WHICH IS NOT SUBJECT TO WITHDRAWAL BY CHECK, AND ON WHICH THE BANK MAY REQUIRE A SPECIFIED PERIOD OF NOTICE OF INTENTION OF WITHDRAWAL. SUCH DEPOSITS USUALLY EARN INTEREST. A SAVINGS ACCOUNT IS A TIME DEPOSIT. GENERALLY, ON SAVINGS ACCOUNTS, BANKS WAIVE THE REQUIREMENT OF THE SPECIFIED ADVANCE NOTICE.

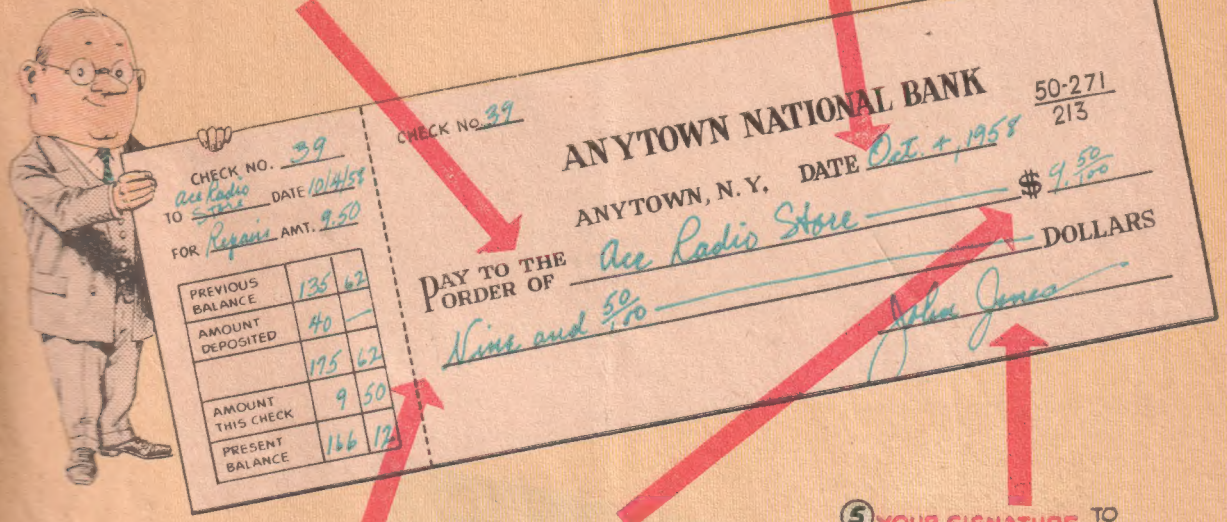


# How to Write a Check

**WRITE YOUR CHECK CLEARLY AND COMPLETELY... DON'T LEAVE ANY BLANKS. AFTER YOU HAVE FILLED OUT THE STUB IN YOUR CHECKBOOK AND DONE THE ARITHMETIC (TO MAKE SURE YOUR BALANCE COVERS THE CHECK YOU PLAN TO DRAW), WRITE THESE FIVE ITEMS IN INK ON THE FACE OF THE CHECK:**

(2) **THE PAYEE'S NAME** AFTER THE PRINTED WORDS "PAY TO THE ORDER OF." THE PAYEE IS THE PERSON OR ORGANIZATION WHOM YOU WANT TO PAY.

(1) **THE DATE** ON WHICH YOU ARE WRITING THE CHECK. NEVER WRITE A FUTURE DATE.



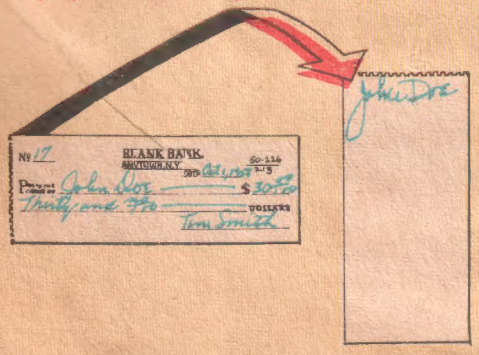

(3) **THE AMOUNT IN WORDS** AS FAR TO THE LEFT AS POSSIBLE. FINISH THE SPACE WITH A LINE. THIS LINE WILL PREVENT THE INSERTION OF EXTRA WORDS THAT MIGHT INCREASE THE FACE VALUE OF THE CHECK.

(4) **THE AMOUNT IN NUMBERS** AS CLOSE TO THE $ SIGN AS POSSIBLE. IF THE AMOUNT IN NUMBERS DOES NOT AGREE WITH THE AMOUNT IN WORDS, YOUR BANK WILL PROBABLY PAY THE AMOUNT IN WORDS, BUT IT WILL CAUSE EXTRA WORK AND CONFUSION.

(5) **YOUR SIGNATURE** TO RESEMBLE AS CLOSELY AS POSSIBLE THE ONE YOU FILED WITH YOUR BANK WHEN YOU OPENED THE ACCOUNT. SIGN THE CHECK ***LAST***, AFTER YOU ARE SURE THAT THE CHECK SAYS WHAT YOU MEAN.

***DON'T CROSS OUT OR CHANGE ANY PART OF YOUR CHECK. IF YOU MAKE A MISTAKE, TAKE A NEW CHECK FORM AND BEGIN AGAIN. DON'T LEND YOUR CHECK.***

# How to Endorse a Check—




IF YOU WANT TO CASH, DEPOSIT, OR TRANSFER TO SOMEONE ELSE A CHECK THAT'S PAYABLE TO YOU, YOU'LL BE ASKED TO "ENDORSE" IT. TO DO THIS, SIMPLY WRITE YOUR NAME (AS IT APPEARS ON THE FACE OF THE CHECK) ON THE BACK OF THE CHECK AT THE EXTREME LEFT END. IF THE FORM DIFFERS FROM THE WAY YOU REGULARLY SIGN YOUR NAME, YOU MAY, IF YOU WISH, ADD YOUR PROPER SIGNATURE. UNLESS YOU ENDORSE A CHECK WITH SOME RESTRICTIVE PHRASE LIKE "FOR DEPOSIT ONLY," YOU SHOULD TREAT THE ENDORSED CHECK THE SAME AS CASH. WHEN YOU MAKE A GENERAL ENDORSEMENT (WHEN YOU JUST SIGN YOUR NAME), YOU ARE SAYING: (1) THAT THE CHECK IS GENUINE AND VALID, (2) THAT YOU ARE THE RIGHTFUL OWNER OF IT, AND (3) THAT, IF NECESSARY, YOU WILL PAY THE AMOUNT OF THE CHECK YOURSELF. YOU, OF COURSE, MAY HOLD PREVIOUS ENDORSERS RESPONSIBLE FOR PAYMENT IN THE SAME WAY THE SUBSEQUENT ENDORSERS MAY HOLD YOU, IF THE BANK ON WHICH THE CHECK IS DRAWN REFUSES TO PAY IT.

BESIDES THE GENERAL ENDORSEMENT, THERE ARE OTHER KINDS OF ENDORSEMENTS THAT LIMIT YOUR LIABILITY ON THE CHECK OR LIMIT ITS FUTURE CIRCULATION. THE PEOPLE AT YOUR BANK WILL BE GLAD TO TELL YOU ABOUT THE CURRENT USE OF THESE OTHER ENDORSEMENTS.

BOOKLET RACK SERVICE FOR EMPLOYEES